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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,116	06/12/2002	Jeffrey Thomas Remillard	201-0910 FAM	1145
28549	7590	07/19/2004	EXAMINER	
KEVIN G. MIERZWA ARTZ & ARTZ, P.C. 28333 TELEGRAPH ROAD, SUITE 250 SOUTHFIELD, MI 48034			POLYZOS, FAYE S	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 07/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/064,116

Applicant(s)

REMILLARD ET AL.

Examiner

Faye Polyzos

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 17-20 is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-12 and 15-16 is/are rejected.
- 7) ☒ Claim(s) 8,9,13,14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12 June 2002.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Comment on Submissions

This communication is responsive to submissions of June 12, 2002.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 10-12 and 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by *Chapman* (US 5,685,637).

Regarding claim 10, *Chapman* discloses a lighting system (100) for night vision applications comprising of a near infrared light source (14), a visible light source (18), a first optical element (12) disposed a distance from the near infrared light source (14) having an input surface for receiving light from the near infrared light source and an output surface for emitting the received light in a desired emission pattern (col. 4, lines 30-33) and a second optical element (10) disposed a distance from the visible light source having an input surface for receiving light from the visible light source and an output surface for emitting received light in a desired emission pattern (col. 4, lines 30-39) where the first and second optical elements are arranged to overlap to form a single color-corrected light emission pattern (See Fig. 1 and col. 4, lines 30-39).

Regarding claim 11, *Chapman* discloses (Fig. 1) the first and second optical elements comprise substantially planar, thin-sheet optical elements that are identical and overlap (col. 4, lines 19-39).

Regarding claim 12, *Chapman* discloses the near infrared light source comprising a laser diode transmitting light wavelengths approximately 800nm-900nm and the visible light source comprising an incandescent light source emitting light in a visible spectrum (See Abstract).

Regarding claims 15 and 16, *Chapman* discloses a camera (i.e. goggles) adapted to receive near infrared light from the near infrared light source reflect off an object within a camera field of view (col. 2, lines 12-14). Although *Chapman* does not specifically disclose of a display to receive data from the camera, a display would be an inherent aspect of the night vision goggles to view the detected object.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1- 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Chapman et al (US 5,685637)* in view of *Mitchika et al (US 4,881796)*.

Regarding claim 1, *Chapman* discloses a lighting system for a night vision application comprising of a near infrared light source (12), a visible light source (18) (col. 1, lines 42-46), and an optical element (10) having an input and output surface for receiving and emitting light in a desired emission pattern (col. 4, lines 30-33). *Chapman* does not disclose a beamsplitter.

Mitchika discloses a multi-spectral projector including a beamsplitter (26) arranged to reflect light emitting from a near infrared light source (28) or visible light source (20) and transmit light emitting from the other of said near infrared light source or visible light source so as to produce a color-correct light source (34, 38) (col. 1, lines 62-67 and col. 2, lines 1-20). *Mitchika* teaches the beamsplitter arrangement allows for the provision of a common optical path that is less susceptible to vibration (col. 1, lines 46-50).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify the lighting system for a night vision application disclosed by *Chapman* so as to incorporate a beamsplitter to allow for a lighting system that is less affected by vibration.

Regarding claim 2, *Chapman* discloses the near infrared light source is a laser diode transmitting light wavelengths between approximately 800nm-900nm (See

Abstract) and the wavelength range of the visible light source (halogen bulb) is approximately between 400nm-800nm for light to be detected.

Regarding claim 3, in the apparatus suggested by *Chapman* in view of *Mitchika*, although *Mitchika* discloses (Fig. 1) the beamsplitter (26) is a dichroic beamsplitter adapted to transmit near infrared light wavelengths (34) and reflect visible light wavelengths (38), those skilled in the art appreciate that, absent some degree of criticality, the relative orientation of the beamsplitter (i.e. which light is rejected or transmitted) is a matter of routine design choice within the skill of a person of ordinary skill in the art depending on the needs of the particular application.

Regarding claim 4, although *Chapman* in view of *Mitchika* do not disclose the beamsplitter is a holographic notch filter, those skilled in the art appreciate that a variety of functional equivalent beamsplitters such as a holographic notch filter are well known in the art. Therefore, absent some degree of criticality, it would have been an obvious design choice within the skill of a person of ordinary skill in the art to substitute a notch filter beamsplitter for the dichroic beamsplitter in view of the known functional equivalence thereof.

Regarding claim 5, *Chapman* discloses a system comprising a camera like device (i.e. goggles) adapted to receive near infrared light from a near infrared light source reflected off an object within a camera field of view (col. 3, lines 39-40)

6. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Chapman* and *Mitchika* as applied to claim 1 above, and further in view of *Lungershausen* (US 5,701,015).

Regarding claims 6 and 7, the apparatus suggested by *Chapman* and *Mitchika*, does not disclose a second optical element comprises a diffuser. *Lungershausen* discloses (Fig. 1) an illumination system including a second optical element transmits a corrected light in a divergent emission pattern toward the optical element input surface (col. 2, lines 54-57). *Lungershausen* further discloses the apparatus comprises of a diffuser (34) (col. 2, lines 58-63). *Lungershausen* teaches the location of the diffuser (i.e. located precisely at the point source) is important in making the diffuser more transmissive and less sensitive to errors (col. 2, lines 53-63). Therefore, it would have been obvious to a person of ordinary skill in the art to modify the lighting system suggested by *Chapman* and *Mitchika* so as to incorporate a diffuser suggested by *Lungershausen* to manipulate the light source in order to create a desired illumination pattern.

Allowable Subject Matter

7. Claims 17-20 are allowed.
8. Claims 8-9 and 13-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
9. The following is an examiner's statement of reasons for allowance:

Regarding independent claim 17, the prior art does not disclose or fairly suggest a night vision system where the optical element consists an output surface arranged approximately perpendicular to the input surface for emitting received light. The examiner notes that while it is known in the art (see for example *Chapman et al.* – US

5,685,637 – at Fig. 1) for a night vision lighting system's optical element to comprise an input and output surface to receive light from visible light source and emit received light to produce a desired emission pattern, the prior art does not suggest a perpendicular arrangement between the output and input surface.

Regarding dependent claims 8 and 13, the prior art, as stated supra, does not disclose or fairly suggest the perpendicular arrangement between the output and input surface in the optical element of the lighting system.

The remaining claims are allowable on the basis of their dependency.

Conclusion


10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Faye Polyzos whose telephone number is 571-272-2447. The examiner can normally be reached on Monday thru Friday from 7:30 AM to 4:00 PM.

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FP



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